

**ABSTRACT**

A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, each of the sensors being in a respective signal channel, includes one or more of the following steps: combining outputs from the sensors to check that their polarities are correct; testing to ascertain if one of the sensors is not working and, if so, using the outputs from the other three sensors to obtain an indication of motion in three dimensions; if all four sensors are working, using their outputs to obtain an indication of motion in three dimensions on a least squares basis; checking that the outputs from the sensors are coherent; and checking the gains (or sensitivities) of the four channels.